

REMARKS

Careful consideration has been given by the applicant to the Examiner's comments and rejection of the claims, as set forth in the Final Rejection of May 1, 2009.

Applicant notes the Examiner's withdrawal of the formal grounds of rejection in view of the amendment previously submitted to the claims.

However, applicant also notes the rejection of Claim 1-3, 6-11, 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Berthold, et al., U.S. Patent No. 4,920,856 A in view of Neff, U.S. Patent No. 4,271,868 A and further in view of Perstnev, et al., U.S. Patent No. 6,024,541 A as detailed in the Office Action.

Applicant further notes the alternative rejection of Claims 1 and 8 as being unpatentable over Wagenseil, et al., U.S. Patent No. 4,602,554 A in view of Fisher, et al., U.S. Patent No. 6,252,321 B and further in view of Perstnev, et al., U.S. Patent No. 6,024,541A as also detailed in the Office Action and wherein it is noted that the Examiner considers Wagenseil, et al. and Fisher, et al. as an alternative rejection of Claim 1.

Prior to detailing the Examiner's grounds of rejection, applicant notes that the Examiner has surprisingly cited Berthold, et al., the latter of which is applicant's own earlier publication, and which was submitted by the applicant in an Information Disclosure Statement on May 5, 2005 and considered by the Examiner in an Office Action of April 7, 2008, wherein the claims were considered to be directed to allowable subject matter in view of this particular publication.

Consequently, the Examiner's citation of this publication, in this instance, is being respectfully questioned as somewhat contradictory to the original indication that the application contains patentable claims in view of this publication.

Reverting to the claims being presented for the Examiner's consideration, applicant notes that

in Claim 1 the term "having at least two control openings" has been revised to essentially indicate that this pertains to "having one generally kidney-shaped low-pressure control opening and at least one generally kidney-shaped high pressure control opening as opposed to the low-pressure control opening". Hereby, this particular amendment is predicted on the disclosure of page 9, lines 21-28 in combination with the subject matter of Claim 7, the latter of which has been cancelled without prejudice or disclaimer.

Hereby, the opposed arrangement of the low and high pressure control openings is constrained by the function that is unambiguously disclosed in Figure 3 of the drawings wherein applicant further incorporated the aspect that "and the radial extension of the control plate is formed over the entire region of the entirety or all of the at least one high-pressure control opening that is connected to the high-pressure connection". This particular aspect has also been provided in the discussion on page 8, lines 5-8 and page 10, lines 4-9 of the specification. Hereby, since the radial extension is arranged in the region of the high-pressure openings 33.1 - 33.5, the radial extension extends in the region of all high-pressure openings. Thus, it is readily obvious that the radial extension resides in enforcing the border of the region of all high-pressure control openings, as indicated on page 8, lines 5-8, and from Figure 3 of the drawings, that the radial extension extends over the entire region of the high-pressure control openings. In this connection, Claim 8 has been correspondingly amended, whereas previous Claims 3 and 11 have been cancelled without prejudice or disclaimer.

Furthermore, applicant has incorporated new Claims 16-23, wherein Claim 17 basically corresponds to previous Claim 6, and Claims 19-21 essentially correspond to the subject matter of previous Claims 10, 13 and 14.

Claim 22 basically conforms to Claim 12 as originally filed, whereas Claims 16 and 18

pertain to the subject matter of original Claims 1 and 8, as filed in February, 2009.

These claims contain the additional features that the centering surface is constituted of three partial surfaces formed on three segments and wherein the segments are separated by three equally spaced recesses, and within one segment being provided with a further smaller recess, the centering surface in order to receive a rotation-locking element. These features set forth in the original Claims 2 and 5, and wherein the recesses are equally spaced as set forth in the specification on page 9, lines 14-16 and shown on Figure 3 of the drawings. The feature of the radial excess added during previous prosecution has been deleted from Claims 16 and 19.

Reverting to the state of the art as cited by the Examiner, none of the publications disclose an outer radial extension of the control plate only in the region of all or the entirety of the at least one high-pressure control openings and over the entire region of all of or the entirety of the at least one high-pressure control opening provides the advantage that the diameter of the control plate can be reduced almost the size of the diameter of the outer edge of the control openings in order to reduce the weight of the control plate and consequently reduce the sealing surrounding areas 27 and 28 which has to be treated such as by lapping with expensive and time-consuming high surface quality operations by providing the radial extension in the entire region of all of the at least one high-pressure control opening, the material part with the highest stress is reinforced in order to ensure a stable control plate while still possessing minimum weight and surfaces that are treated or worked on at a high degree of quality, referring to the specification at page 8, second paragraph and page 2, third paragraph of the disclosure.

Reverting more specifically to the prior art, applicant submits as follows:

Perstnev, et al. discloses an outer radial extension in the region between the low-pressure and high-pressure control openings does not enforce the stressed region of the high-pressure

port D and thus does not allow to reduce the weight and surface to be worked with high-quality to a minimum because the diameter of the control plate has to be chosen such that the borders of the high-pressure port D are stable without such a radial extension. In contrast, the radial extension in the region between the control openings further weighs on the control plate and does not enforce the high-pressure control openings, because the bulging portion is arranged somewhere else for implementing a two-chamber system connecting passing the region between the control openings with the high-pressure control opening for damping the vibrations created by sudden pressure rise in the high-pressure control opening when the cylinder chamber comes into contact with the high-pressure control opening. Therefore, even a combination of Berthold, Neff and Perstnev or a combination of Wagenseil, Fisher and Perstnev would not disclose nor even support the inventive solution.

Applicant also submit that Berthold, Neff and Perstnev and not functionally combinable. On the basis of Berthold or Wagenseil the object of the invention would be to reduce the weight of the control plate and the surface of the control plate worked with high quality (see page 2, third paragraph) while keeping the functionality of standard control plates. The object is attained by reducing the diameter of the control plate to a minimum, but by reinforcing the control plate at the outer edge at the high-pressure control openings where the loading of the control plate is the highest by a radial extension of the entire region, and only at that location, of all of at least one high-pressure control opening. In addition, the inner edge responsible for centering the control plate is interrupted by recesses for the purpose of saving weight and reducing the surface that is worked with a high-quality of a centering body (i.e., a pilot valve) is obtained by segmenting the centering surface. One skilled in the art would not combine the Berthold, et al. and Neff, et al. publications without prior knowledge of the inventive solution. In addition, the combination of Berthold and Perstnev is not at

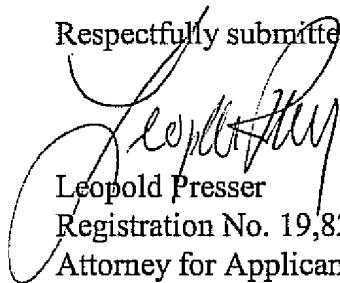
all suggestive to one skilled in the art, because the radial extension of the control plate in Perstnev is arranged to include a chamber system for reducing the problem of softening the shock effect of the pressure changes in the cylinder arising in a transition region between the low pressure region and the high pressure region. However, this is not the problem of the present invention. Consequently, the documents Berthold, Neff and Perstnev could not be combined without performing at least two additional successive steps, wherein each step is not suggested by the state of the art.

In addition to the foregoing, neither Fisher or Perstnev provides any suggestion of solving the present object in combining Wagenseil, Fisher and Perstnev. If the object of the invention would be to reduce the noise generated by the axial piston machine, a radial extension would be arranged in a region of the control plate located between the high- and low-pressure control openings by including a two-chamber noise reduction system, but that would not result in the present invention as claimed.

With respect to Claims 16 and 18, the additional features, that there are three segments and three equally spaced recesses, further improve the invention with regard to the intended object. Three is the minimum number of segments which adequately centers the control plate, and still reduces the weight and the surface worked at high-quality to a minimum. If the three recesses are equally spaced, the effect of efficiently centering the control plate under the constraint of minimal weight and minimal surface worked with high-quality is further enhanced. By including a further smaller recess in one of the three segments for receiving a rotation-locking element, another function is integrally provided under the constraint of minimal weight and minimal surface worked under a high quality. Fisher provided for six segments and Neff for four segments; wherein neither of the documents provide a suggestion as to how to reduce the weight and surface worked at a high-quality of the control plate, by reducing the segments to three in number.

In summation, applicant respectfully submits that on the basis of the foregoing amendments and supporting arguments, the application is clearly directed to allowable subject matter, and the early and favorable reconsideration thereof by the Examiner and issuance of the Notice of Allowance are earnestly solicited. However, in the event the Examiner has any queries concerning the instantly submitted amendment, applicant's attorney respectfully requests that he be accorded the courtesy of a telephone conference with the Examiner to discuss any matters in need of attention.

Respectfully submitted,



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